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ABSTRACT

Anyone who chooses a career as a professional performing artist knows that the management of physical and emotional tension will occupy center stage during at least some phases of his or her professional career. Skills to prevent this anxiety should be taught as a part of professional musicians' training. Tension and anxiety are not synonymous. Some tension is required for activity. Anxiety can improve performance on tasks or anxiety can interfere with it. Anxiety and muscle tension are closely related. Excess muscle tension, along with excess anxiety can severely impair performance. The "Yerkes-Dodson law" states that moderately difficult tasks are performed best under conditions of moderate emotional or physiological arousal. Severe arousal or insufficient arousal impedes performance. This law has been found to hold for musical performance. Treatment for stage fright may include frequent performances or gradual desensitization. Evidence suggests the most powerful stress-reduction treatment for any individual is the one that most directly addresses the particlar stress symptoms the individual experiences: physiological approaches for physiological symptoms, cognitive approaches for cognitive symptoms, and behavioral approaches for behavioral symptoms. For musicians-in-training, the following methods can be utilized in stage-fright prevention: (1) instruction in stress management; (2) opportunities for student to perform several times a week before other students; (3) coursework in recognizing problems of tension and anxiety; and (4) instruction in progressive relaxation. Forty-nine references are provided. (ABL)

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Psychological Approaches to the Management of Tension in Performance

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Anyone who chooses a career as a professional performing artist must know that the management of physical and emotional tension will occupy center stage during at least some phases of his or her professional career, and will always be a matter of some concern. The management of physical and emotional tension involves the mastery of skills, some of which are just as intricate as those involved in learning to play a Beethoven sonata. Some of these skills are, in fact, inextricably connected to instrumental technique, while others can be taught relatively independently. Many musicians first systematically seek this knowledge after almost incapacitating bouts with tension-related problems, if their careers are not ended first because of these problems. The knowledge often comes from the rare music pedagogues with an interest in tension problems, or often from one of the equally uncommon psychologists, physicians, "body therapists" or psychotherapists who have a special interest in musicians. Some of these individuals may prove helpful, others not, but all of them are relatively difficult to find, and usually arrive too late to *prevent* the problems they eventually are called upon to treat. I therefore will argue that these skills should be taught as part of the professional training of all musicians, and that the learning of them should be systematically integrated into the curricula of schools of music --- as, in fact, is beginning to happen in some prominent schools around the world.

Although the problem of tension in performance has been discussed throughout the ages, it only recently has become an issue for widespread systematic concern. Recent interdisciplinary conferences on

the topic have been held in London, Princeton, New York, Denver, and Aspen, and have involved professionals from the fields of music performance and education, psychology, physiology, and medicine. In the summer of 1985 three such conferences took place in the New York - New Jersey area within a single month. There is now an International Society for the Study of Tension in Performance, based in London. It holds yearly meetings and frequent workshops throughout the world, and it publishes a journal, the *Journal of the International Society for the Study of Tension in Performance.* A second journal on the subject will soon commence publication in this country, oriented primarily to physicians who treat musicians and their problems. Articles on the subject appear in increasing frequency in the music education journals, and even in the popular press.

The Relationship Between Anxiety, Tension and Quality of Performance

Tension and anxiety are not synonymous. Some tension is required in everything we do. Tension is activity. The opposite of tension is passivity. Tension is not, in any sense, "bad". Without it playing any instrument would be impossible. Anxiety also is not always bad. As all performers know, anxiety can sometimes be helpful in performance. Some psychologists have made the distinction between "facilitory" and "debilitating" anxiety (Alpert & Haber, 1960) i.e., anxiety that improves performance on tasks vs. anxiety that interferes with it.

Anxiety and muscle tension are closely related. Anxiety always is accompanied by muscle tension. Excess muscle tension, along with excess anxiety, can severely impede performance, just as it can impair

the performer. Although anxiety can be an important source of muscle tension, it is by no means the only source. Biologically based problems in muscular coordination and problems in instrumental technique can themselves produce isometric tension problems that are completely incapacitating. Similarly tension caused by poor instrumental technique can cause debilitating anxiety --- especially when the "normal" anxiety produced by the public performance situation augments the technique-produced tension, thus causing errors and decreasing the quality of the performance. Often, if not usually, the several sources work in vicious synchrony with each other.

One of the best known psychological "laws" of behavior is the so-called "Yerkes-Dodson law", which bears the name of the two psychologists who first observed it during the 1920's. Yerkes and Dodson found that moderately difficult tasks are performed best under conditions of moderate emotional or physiological arousal. Severe arousal or *insufficient* arousal impede performance. Experimental work on this law has suggested that this is true not only across different kinds of tasks --- from swimming mazes to taking examinations --- but across different kinds of arousal --- including that resulting from anxiety, hunger, oxygen deprivation, sleep deprivation, etc. --- and even across different kinds of organisms --- from rats to humans. Steptoe (1983) recently reported some data showing that this function was specifically true for performance anxiety. He asked a group of young classical and operatic singers to rank both the amount of tension they experience and the quality of their performance in each of five situations: a lesson, a dress rehearsal, a public performance, an audition, and practice in private.

The results almost exactly paralleled those described by Yerkes and Dodson. Quality of performance was rated highest during performances, while anxiety was rated at a moderate level at these times. Tension and quality were both rated as relatively low during practice in private, and both were slightly higher during lessons. Tension was rated highest and quality lowest during auditions. Dress rehearsals were given ratings between those at performances and those at auditions, on both measures.

When the task becomes relatively easy, however, Yerkes and his colleagues found that relatively *high* amounts of anxiety appear to be optimal for performance. This may explain an otherwise puzzling finding by Hamann (1982; Hamann and Sobaje, 1983) that the longer a student has been studying an instrument, the more that anxiety facilitates performance. Children who studied for six or more years tended to perform better in high-anxiety situations than in low-anxiety situations. This finding is consistent with research on phobias showing that practicing confronting fearsome situations is the most powerful method of treatment available (e.g., Marks, 1978; Mathews, Gelder, and Johnson, 1981). Hamann (1985) suggests that the critical anxiety-management ingredient in lengthy training is mastery of the task. This appears to be particularly true for people who have a lot of what psychologists call "trait anxiety". These individuals experience anxiety *much* of the time in *many* situations (i.e., not just around performances). Two studies have found that when highly anxious people are confronted with a very stressful situation (such as taking an examination), their performance in these situations improves only under one circumstance: if they are especially skilled in the

tasks (Spielberger, 1971; Heinrich & Spielberger, 1982) required to cope with the stressful situation.

It is probable that extensive experience in performing renders the task of performing easier, by teaching many of the skills necessary to cope with the performance situation. As any musician or teacher will easily note, this knowledge does not come automatically with performance experience, but often is acquired through specific training in coping with the many vicissitudes of performance. Either through their own inginuity or through specific instruction, performers learn techniques for dealing with memory slips (e.g., having a good structural knowledge of the piece and developing strategies to return oneself to familiar parts of the music), for managing excess muscle tension (e.g., learning special muscle relaxation techniques, or special ways of holding the arms or hands during particularly difficult passages), for warming cold hands (e.g., wear gloves before a performance), for dealing with overconcerned (or underconcerned) friends and relatives, for reducing one's fear of and vulnerability to negative reactions by colleagues or critics, etc. When the task of performance thereby becomes easier, the stress of the performance situation may be expected to "bring out the best" in the performer and improve the performance.

Implications for Treatment

If experience giving many and frequent performances does impart greater skill in coping with the performance situation ---- as Hamann and his colleagues assume --- then the experience of giving many frequent performances should be an effective treatment for stage

fright.' Data on other forms of anxiety do suggest that "massed practice" is helpful: i.e., that performance opportunities should best be massed together in time, preferably several times per week for a few months. Research suggests that widely spaced exposure to anxiety-provoking situations may lead to an *exacerbation* of anxiety. This is known as the "incubation effect", (McAllister & McAllister, 1967). This phenomenon may account for the long-term persistence of stage fright in some individuals. Opportunities to perform several times per week are, for many musicians, difficult to obtain. The incubation effect also may be enhanced by the natural inclination to avoid doing things that produce anxiety. An individual suffering from stage fright may avoid performing because of the fear involved. A treatment regimen for managing stage fright should take this into account, and *require* frequent performance.

The requirement of frequent performance does not mean that stage frightened individuals must all be put on stage in Carnegie Hall three times per week until the fear goes away. Although such a scenario might, if it were possible, be beneficial for some, the most stage-fright stricken probably would simply drop out of any treatment that required it. An approach of successive approximations is therefore suggested in treating this problem, as in treating most other phobias. Individuals can begin by playing for just a few trusted friends in an intimate and nonthreatening environment, and gradually increase the size and formidability of the audience, as well as the formality of the surroundings. The pace at which these advances are made should ideally be matched to the individual's comfort level. Some will be able to advance to formal concerts quickly and easily, while

others will not.

The skill of the teacher or therapist will be called upon to determine when the individual is ready to advance to more threatening performance situations. Some people are known to be accurate observers and reporters of their own internal emotional states, and are able to set an optimal pace for their exposure to feared situations. Others may minimize their discomfort in order to advance more quickly, while still others may exaggerate it because of undue dread of a more severe anxiety reaction. Both these tendencies may lead to deleterious effects and must be dealt with explicitly. This technique of gradually exposing oneself to a feared situation is known in psychology by the term "*in vivo* desensitization". *In vivo* desensitization involves *gradually* exposing oneself to feared situations, at such a slow pace that the individual never really experiences fear as the situation is approached. This is usually done in combination with a technique that directly lessens anxiety, such as deep muscle relaxation. It is related to the older and widely used technique of "imaginal desensitization" (Wolpe, 1958), in which the individual only *imagines* a gradual approach to the feared situation. Although imaginal desensitization can be helpful, especially if frequent performance situations cannot be arranged, it is less effective by far than *in vivo* practice. A case study involving both imaginal desensitization and massed *in vivo* performance practice with a woman suffering from debilitating stage fright is described by Norton, MacLean, & Wachna (1978).

The Multifaceted Nature of Performance Anxiety and its Treatment

Much evidence has been gathered to date showing that anxiety has several different forms, each of which might best be managed in a unique way. Lang (1971) found that physiological, cognitive, and behavioral manifestations of anxiety often do not correlate highly with each other. When snake phobic subjects were placed in a long room with a caged snake at the end of it and were asked to pick it up and play with it, those individuals who *said* that they were the most anxious were not necessarily the ones who stayed the farthest away from the snake, and neither of these were necessarily the individuals who showed the greatest increases in heart rate or palmar sweating. Some subjects responded in only one of these ways, others in more than one. Each of these patterns seemed to represent a different kind of anxiety.

In a recent review of the empirical treatment outcome literature, Lehrer and Woolfolk (1984) found evidence that the most powerful stress-reduction treatment for any individual is the one that most directly addresses the particular stress symptoms the individual experiences: physiological approaches for physiological symptoms, cognitive approaches for cognitive symptoms, and behavioral approaches for behavioral symptoms. *In vivo* desensitization and "flooding" therapy are behavioral approaches. Flooding therapy differs from *in vivo* desensitization in that the individual is exposed to the most anxiety provoking situation (e.g., the Carnegie Hall recital) right from the beginning, and learns to tolerate the anxiety that is provoked. The effects of these techniques are greatest in helping the individual get to the concert hall and perform. They are somewhat less effective, by themselves, in helping people manage the thoughts (e.g.

self-devaluation, lack of confidence) and the physiological manifestations of anxiety that accompany performance anxiety. For that reason, *in vivo* desensitization and/or frequent performance practice usually are not adequate when used in isolation.

The importance of specificity of treatment for various aspects of performance anxiety is illustrated by several studies. I have heard innumerable music teachers, psychologists, and physicians all argue that one method --- usually *their* method --- is sufficient to help individuals manage all forms of stage fright. Three methods I have heard so touted are "learning the music better by analyzing it more thoroughly," practicing more" and taking beta blocker drugs such as propranolol (inderal) which eliminate many of the physiological symptoms of anxiety. Each of these produces specific effects on some of the symptoms of performance anxiety, but not on others. In a study of music students with stage fright, Appel (1976) found that special training in musical analysis tended to decrease the number of errors a performer made during a performance while imaginal desensitization did not. Desensitization, on the other hand, reduced self-reported anxiety during the performance more than did training in musical analysis. Similarly Brantigan et. al. (1979) found that the propranolol decreased tremors and other physiological accompaniments of stage fright, but had much more modest effects on self-reported feelings of anxiety. No one has as yet done a formal evaluation of the *combination* of anti-anxiety techniques and performance coping training.

Physiological problems No one needs to tell performers about symptoms of stage fright. Usually these result from the normal "fight or flight" reflex. This reflex is elicited whenever we are faced with anxiety or stress. It was not entirely designed with piano, voice, or cello performance in mind. Although the sharpening of thought processes and increased alertness that occur in the fight-flight reflex may be helpful, the dry mouth, stomach ache, headache, cold wet hands, and tight muscles often are not. The fight-flight reflex was designed by nature for attacking or fleeing enemies and surviving in the wilderness. Wet hands help the individual to climb trees and to run faster, diminished blood flow to the periphery (which produces cold hands) and to the gastro-intestinal tract (which can lead to indigestion) allows a greater blood supply for the big muscles, which may tighten and produce a form of "body armor" that is both protective and mobilizing. The increase in alertness and pace of thought might help the individual find a quick hiding place. Although these responses may be useful for escaping bears and fighting invaders, they are not necessarily adaptive for utilizing a skill that resides at the outer limit of human intellectual and motor ability; and that requires the utmost of delicacy and both intellectual and motor control.

Physiological symptoms of stress appear to be effectively and specifically treated by techniques of muscle relaxation, biofeedback, and self hypnosis (cf. Lehrer & Woolfolk, 1984). People can learn to detect very low-level muscle tension in their bodies and to relax muscles that are not needed in the performance of particular tasks. This technique is known as "differential relaxation", and is routinely

taught by behavior therapists in the treatment of tension-related disorders. In piano technique some teachers (e.g., S. Lehrer, 1983) give specific training to students in relaxing their thumb and fifth fingers while other fingers are playing on the keyboard. (In some players these fingers may stick out while playing, thus manifesting isometric tension, which can interfere with performance.) They also teach students how to find spots in the music where they can release their muscles, how to sit, and hold their arms, legs, and fingers in such a way as to minimize isometric tension. Specific instruction about which muscles are necessary in the performance of particularly difficult passages is also done.

Having a *number* of methods of controlling the musculature also is helpful. When isometric tension and some loss of control occur as part of the fight-flight reflex during an important performance, it is useful to have analyzed ones own muscle movements, to know which kinds of tensions are helpful and which are irrelevant to the task and therefore harmful, and to be able to exert conscious control over the isometric contractions that generally occur involuntarily when one is nervous. The nonverbal, unconscious and nonintellectual kinesthetic skill by which muscular acts ordinarily are learned and maintained can only be completely relied upon during performance if deliberate analysis and conscious training of the skills are done first.

Irvine and LeVine (1981) and LeVine and Irvine (1984) recently reported studying a number of violinists and violists who, using the technique of biofeedback, were taught to play their instruments without tensing their left thumbs. Under the assumption that tension in that finger serves little or no purpose in playing the instrument,

and that tension there can spread to other fingers and interfere with finger dexterity, electrodes were attached to the muscles in the hand that control thumb movement, and were connected to a small machine that emits audible signals when the individual's muscle tension exceeds a predetermined level. That level can be progressively decreased as the individual learns to relax. Individuals treated in this way reported greater freedom, improved dexterity, and greater ability to control musical expressiveness. Similar findings were obtained from studies of biofeedback -mediated relaxation of the forearm muscles in violinists (Morasky, Reynolds, & Clarke, 1981) and clarinetists (Morasky, Reynolds, & Sowell, 1983); facial muscles of woodwind players (Levee, Cohen, & Rickles, 1976; Basmajian & Newton, 1974). Trumpet players also can learn to reduce facial muscle tension, but the effects on their playing have not been evaluated (Basmajian & White, 1973). Although the various relaxation methods do reduce muscle tension, they have not been found to reduce musical intensity of the performances (Reynolds & Morasky, 1981).

Another approach to the problem of tension-related physical problems among musicians involves the use of new kinds of prosthetic hardware. The Australian surgeon, H. Fry (1985) noticed that almost all clarinetists eventually develop problems in the muscles and ligaments of the right thumb. Although these problems are often diagnosed as "carpal tunnel syndrome" or "tendinitis" or "tenosynovitis" they rarely do actually involve inflammation or malformation of the tendon. They appear to be an entirly different kind of disorder. They occur much more frequently among musicians than among the general population, and the conventional surgical treatment

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procedures usually do not work. Fry describes these problems as "overuse disorders", which are best treated by rest and by changes in technique that take the strain off the afflicted area. He invented a post for the clarinet and oboe, which attaches to the center of the instrument, and rests on the abdomen. These devices are now commercially available from Autralia, and, he claims, they produce dramatic improvement in the right hand problems of clarinetists.

Some forms of medication also may be helpful. As I mentioned before, one class of medication that now is discussed and used quite widely is the group of "beta blockers". These drugs are widely used in treatment of high blood pressure and other cardiovascular disorders. They block some of the physiological concomitants of the fight-flight reflex: racing heart, sweaty palms, muscle tension, etc. They often are *misused and overused* by musicians. The author has known some symphony ochestra performers who take them at every performance, often obtaining the medication from their stand-mates, without having spoken with their physicians. This practice could entail some risks. Although the short term effects physiological symptoms of anxiety and on some technical aspects of performance have been found to improve under the influence of beta blockers (Liden & Gottfries, 1974; James, Pearson, Griffith, & Newbury, 1977; Brantigan, Brantigan, & Joseph, 1979), no one has yet investigated the effect of beta blockers for performance anxiety. It is known that some of the physical side effects of beta blockers can be quite debilitating, and, under some circumstances, even fatal. Some of the psychological effects can be just as debilitating for a performer: depression, muscle weakness, and short term memory loss. Receiving beta blockers from a colleague, friend, or

music teacher can therefore be rather dangerous. Although prescriptions by a physician after a thorough medical evaluation may lessen ths risk, beta blockers are not always easy to obtain in this manner. Many physicians refuse to prescribe beta blockers for the purpose because the U.S. Food and Drug Administration has not yet approved this use (primarily because the required studies of safety and effectiveness have not yet been completed).

Certainly safer than beta blockers are a number of psychological techniques for overcoming physiological hyper-arousal. Although their effectiveness compared with beta blockers has not yet been tested, they certainly are less risky. They may be used in combination with beta blockers in some instances, although the interaction between psychological techniques and beta blockers has not yet been studied. These include progressive muscle relaxation (Jacobson, 1938), self hypnosis (Schultz & Luthe, 1969), and some aspects of the Feldenkrais (1972) and Alexander (Barlow,1977) methods, as well as the Eastern disciplines of Yoga (Patel, 1984), and Tai Chi (Man-ching & Smith, 1967). Another anxiolytic drug, commonly known as valium, has been found to *intefere* with relaxaton therapy for anxiety (Lavallée et. al., 1977) and with music performance (James & Savage, 1983).

Cognitive problems Cognitive factors known to raise anxiety levels include one's reaction to lack of control (e.g., over conditions in the hall, the reactions of others, the things one's body might do, etc.), demands for an impossible level of perfection, and the perception that the stakes are high and the probability of success low (Lazarus & Folkman, 1984). The performer's profession is almost

designed to maximize these factors. During music performance the body is tested to the limits of its capacity for subtle neuromuscular and mental control. A minor indisposition or even some normal physiological events, such as the physiological accompaniments of the fight-flight reflex, can have a major effect on performance. If an individual perceives his or her body to be out of control, anxiety is increased. This may then exacerbate the very symptoms that produced the anxiety in the first place --- cold hands, palpitations, dry mouth, tremors, etc.

Demands for perfection are particularly problematic for musicians or actors. Perfectionism almost always generates anxiety. Although neurotic perfectionistic tendencies can exaggerate the problem, there is some reality to the perceived need for perfection. At very least, all the notes or words should be played or said in a perfectly correct sequence. Anything less will universally be judged as a fault in the performance.

In addition, most human beings have a tendency to judge their own performances in comparison to the performances of others. Nowadays, musicians can even compare their own live performances with recorded performances by the greatest artists --- performances which may have been dubbed and redubbed numerous times, yielding a standard of perfection that rarely is possible for anyone in a live performance. Many musicians, including some very prominent ones, have avoided performing because they fear they cannot achieve this standard. Also, the stakes *are* high in many performances, and the probability of success in a career as a performer certainly is low. I sometimes think it mind-boggling that people train for twenty years to play an

instrument professionally, often in full knowledge of the fact that only a small percentage of conservatory graduates will ever be able to earn a living as performers. In such a buyers' market for talent, performers *can* lose a steady job or a chance for a concert tour because of a single bungled performance. This cannot help but raise anxiety; and even if the risk is rarely *catastrophic* to one's personal being or even to one's career, it becomes quite easy for some individuals to *make* a catastrophe of it in their minds --- a common cognitive distortion among ordinarily psychologically "normal" worry warts.

Other cognitive factors also create anxiety in the life of the performer. It is no paranoid delusion that colleagues and members of the audience do pass judgment on everything one does. Indeed one's musical shortcomings sometimes are written up in the next day's newspaper in uncomfortable detail by a hostile critic. It takes a thick skin and considerable psychological stability and training to remain oblivious to such social pressure.

Also, the upbringing of some musicians may contribute to problems with self-image. Many musicians begin their training rather early in life, at a formative period for self image and self esteem. Self-image thus often becomes intertwined with the ability to perform, such that a child's sense of self-worth is enhanced by good performance and diminished by bad performance. Some individuals do not seem to grow out of this. Any threat to self-worth generates anxiety; and, it very obviously is irrational and emotionally self-defeating to depend on any one trait or skill to define one's value as a human being. But the upbringing of a performer nonetheless can foster this kind of neurotic

bind. Many musicians I have examined have revealed that they do fear loss of love and self-esteem if they should perform badly.

Treatments for severe manifestations of such problems can include counseling, psychotherapy and cognitive therapies that focus on helping people to recognize irrational and self-defeating patterns of thought. Formal discussions and rap sessions in dormitories on the subject might be useful for many students. Such worries might be considered an occupational hazard for musicians. Training should be provided for dealing with them.

Behavioral problems The behavioral components of performance anxiety include technical problems that detract from performance; interpersonal problems with teachers, friends, managers, and stage hands; as well as the tendency discussed above for people to avoid doing the things that make them anxious --- including practicing difficult passages as well as creating performance opportunities for themselves. Workshops on "assertive training" (Albert & Emmons, 1974) are widely available and helpful for many of these interpersonal problems. Workshops oriented specifically to the common interpersonal problems of musicians should be particularly useful. As I mentioned before, studies of phobias find that the most effective treatment for avoidance involves the individual's exposing him or herself to the thing that produces anxiety.

An integrated approach Although cognitive, physiological, and behavioral aspects of anxiety *often* are as I have described, relatively independent of each other, there is one circumstance under which they often are all closely associated with each other. Craske and Craig (1984) found desynchrony among the three aspects of anxiety

among nonanxious pianists during a performance, but a high association among anxious pianists. This suggests that helping very highly anxious individuals, who respond in all three modalities, may require a much more coordinated and comprehensive program than helping less anxious individuals who may experience debilitating symptoms only in one modality. Consultation or involvement with a mental health professional may be useful for indivduals who experience a large number of such symptoms.

Common to most anxiety-management methods is the provision of strategies for active coping through prior preparation for stressful situations. Such prior preparation usually involves thinking about the stressors that one will be confronting, and planning methods of coping with them. Thus some music teachers train their students to anticipate the various things that could go wrong --- from memory slips and anxiety reactions to instrumental and interpersonal problems --- and to develop a strategy for coping with each. There is a good deal of evidence that the so-called "work of worrying" (Janis, 1958) does help to lessen anxiety in critical situations.

Although studies of anticipatory worrying have not, as yet, been done among musicians, they have been done on parachute jumpers --- if the reader will bear with this rather far-fetched analogy. These studies find that experienced jumpers, who show little anxiety during the jump itself, tend to show much greater anxiety several days prior to the jump than novices. Novices tend to show little *advance* worry but much more anxiety at the time of the jump (Epstein & Fenz, 1965). In contrast to these studies, however, studies of preoperative surgical patients have found that those who tend to ask the *fewest*

questions about their illness and who generally *avoid* thinking about the problems they are facing are the ones who show the quickest recovery (Cohen and Lazarus, 1973). At present we simply do not know for certain which of these strategies is optimal regarding performance anxiety. Although the comparison may sound ludicrous, performing on stage *is* more analogous to parachute jumping than to having an operation, because the former two both require active coping, whereas having an operation is a passive experience. There therefore is reason to expect that active coping and thinking about anxiety may be helpful.

Not all musicians seem to agree with this view, however. Some musicians refused to participate in a questionnaire study about performance anxiety (Lehrer, 1981) because they felt that they did not want to think of performance anxiety. They appeared to believe that not thinking about it would ward it off.

Among those who did complete it, several spontaneous comments indicated that thinking about anxiety turned out to have been useful in coping with it. *No* one reported that completing the questionnaire and thinking about their anxieties in advance made them *more* anxious at the performance.

Implications for the Music Teacher

None of the methods I have described is completely --- or even to a large extent --- the exclusive province of the psychologist or psychotherapist. Our data indicate that roughly one third of the anxiety at a performance is explained by trait anxiety (i.e. the anxiety that people experience outside as well as in the performance situation). The rest is highly specific to performing. I predict that specific problem-oriented interventions will prove to be more effective than psychotherapy for most of the specific manifestations of stage fright.

Deliberate instruction in stress management and the use of experts in this area as consultants is already being done at a number of institutions. For example, a series of workshops was recently given at the Mason Gross School for the Arts at Rutgers University by the pianist and teacher Carola Grindea, who has written much about the topic of tension in performance, and has edited a book on the subject (Grindea, 1982). The workshops were attended both by faculty and students, many of whom were willing and able to introduce some techniques of physical relaxation into their teaching and practice during the succeeding year. Other such workshops are offered throughout the world. Also, performance classes and workshops, which are offered at most music schools, are already being used as vehicles for frequent performance experience. Usually, however, this experience is not sufficiently frequent. Some structured mechanism whereby students can give performances several times weekly to other students and, if possible, faculty, can help to meet the need for "massed

practice" in the management of performance anxiety.

Formal courses and workshops also can be helpful. An academic course in psychology can emphasize the problems of tension and anxiety, and, either there or in special workshops, students can be taught such techniques as progressive relaxation (Jacobson, 1938) meditation (Carrington, 1984), and autogenic training; and can talk about some of the rational and irrational aspects of various performance-related fears. Some gestalt-oriented workshops oriented to heightened experience and clarification of the performer's ambivalences, irrational fears, and personal needs that interfere with performance have been offered and described by Robert Triplett (1983) and the late Eloise Ristad (1982).

Similarly some of the interpersonal problems associated with a performance career can be helped both by faculty sensitive to the psychological needs of students and by informal rap sessios and workshops about various interpersonal problems commonly faced by performers. In short, since skills in managing tension and anxiety are necessary for successful functioning of all performing artists, I believe that both private teachers and schools of music are well advised to include specific training on the subject to their students.

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